

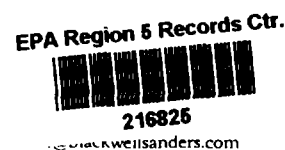
LAW FIRM

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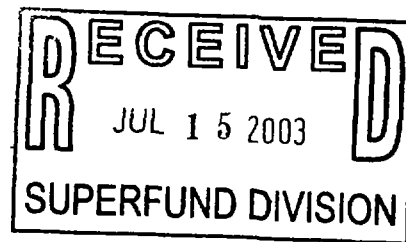
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E-MAIL



July 14, 2003

James N. Mayka, Chief  
Remedial Response Branch #2  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Chicago, IL 60604-3590



**Re: HIMCO Dump Superfund Site - Proposed Amendments To Record Of Decision  
Our File No. 2619-4**

Dear Mr. Mayka:

I represent Dura Automotive Systems of Indiana, Inc. ("Dura") in connection with the HIMCO Dump Superfund Site in Elkhart, Indiana ("Site"). This letter is sent on behalf of Dura and the other parties identified below as Commenters in response to the General Notice of Liability letter issued USEPA Region V to the Commenters or their affiliates and several other parties on or about May 29, 2003.

CTS Corporation

Dana Corporation (o/b/o Durakool, Inc.)

Dura Automotive Systems of Indiana, Inc. (o/b/o Exel Corporation)

Elkhart Brass Manufacturing Company, Inc.

Elkhart General Hospital

Gaska Tape, Inc.

Henkel & McCoy, Inc.

Pennsylvania Lines, LLC (o/b/o Consolidated Rail Corporation)

Truth Publishing Company

Wyeth, f/k/a American Home Products Corporation (o/b/o White Hall Laboratories)

The Commenters hereby request that the enclosed Comments On Proposed Amendments To Record Of Decision, HIMCO Dump Superfund Site be made part of the administrative record

**BLACKWELL SANDERS PEPPER MARTIN**  
LLP

James N. Mayka, Chief  
July 14, 2003  
Page 2

relating to the Site. The Commenters further request that USEPA Region V respond in writing individually to each of the comments made by the Commenters and that the agency's written responses to the Commenters' comments also be made part of the administrative record relating to the Site.

Thank you very much for your consideration.

Very truly yours,

*W.C. Blanton*  
W.C. Blanton

WCB:kec  
Enclosure

cc: Elizabeth Ahlemann, CTS Corporation  
Jerome Maynard, Dana Corporation  
James Woodsmall, Elkhart Brass Manufacturing Company, Inc.  
Christopher Dunskey, Elkhart General Hospital  
Phillip Comella, Gaska Tape, Inc.  
Thomas McLaughlin, Henkel & McCoy, Inc.  
Karin Stamy, Pennsylvania Lines, LLC  
Carl Tiedemann, Truth Publishing Company  
Ronald Schott, Wyeth, f/k/a American Home Products Corporation

**COMMENTS ON PROPOSED AMENDMENTS TO RECORD OF DECISION  
HIMCO DUMP SUPERFUND SITE  
JULY 14, 2003**

**Submitted by:**

**CTS Corporation  
Dana Corporation (o/b/o Durakool, Inc.)  
Dura Automotive Systems of Indiana, Inc. (o/b/o  
Excel Corporation)  
Elkhart Brass Manufacturing Company, Inc.  
Elkhart General Hospital  
Gaska Tape, Inc.  
Henkels & McCoy, Inc.  
Pennsylvania Lines, LLC (o/b/o Consolidated  
Rail Corporation)  
Truth Publishing Company  
Wyeth, f/k/a American Home Products  
Corporation (o/b/o White Hall Laboratories)**

**COMMENTS ON PROPOSED AMENDMENTS TO RECORD OF DECISION  
HIMCO DUMP SUPERFUND SITE  
JULY 14, 2003**

The following comments are hereby submitted to the United States Environmental Protection Agency Region V ("EPA") with respect to EPA's proposed amendments to the record of decision ("ROD") for the HIMCO Dump Superfund Site in Elkhart, Indiana ("Site") by the following parties, all of whom have either been notified by EPA of their potential liability in connection with this Site, or are acting on behalf of a party that has been notified by EPA of its potential liability with respect to the Site: CTS Corporation; Dana Corporation (o/b/o Durakool, Inc.); Dura Automotive Systems of Indiana, Inc. (o/b/o Excel Corporation); Elkhart Brass Manufacturing Company, Inc.; Elkhart General Hospital; Gaska Tape, Inc.; Henkels & McCoy, Inc.; Pennsylvania Lines, LLC (o/b/o Consolidated Rail Corporation); Truth Publishing Company; and Wyeth, f/k/a American Home Products Corporation (o/b/o White Hall Laboratories) ("Commenters" collectively).

EPA should neither adopt the proposed amendments to the ROD nor implement the remedy for the Site previously selected by EPA pursuant to the ROD process because the Site poses no threat to human health or the environment that warrants undertaking certain remedial action EPA currently intends to have implemented at the Site. More specifically,

1. The water quality data for groundwater at and in the vicinity of the Site indicate that the landfill at the Site ("Landfill") is not a source of significant groundwater contamination at or downgradient from the Site. Given the length of time since the Landfill closed, there are no reasonable grounds to believe that groundwater at and downgradient from the Site will be significantly adversely impacted by

contamination originating at the Site in the future. Therefore, there is no technical justification for (a) either the Landfill cover called for in the ROD or the Landfill cover currently proposed by EPA, (b) the proposed connection of residences located east of the Landfill to the Elkhart public water supply system, or (c) the contingent groundwater remedy.

2. The soil gas data for the Site and nearby areas indicate that the generation of gas at the Landfill is not significant with respect to nearby residences. Therefore, there is no technical justification for the soil gas collection system called for in the ROD and the proposed amendments to the ROD.
3. The risk assessments utilized as bases for the ROD and the proposed amendments to the ROD overstate both cancer risks and non-cancer hazards for all exposure scenarios and all pathways. It is highly unlikely that anyone has been, is being, or will be exposed to contaminants at the concentrations predicted by EPA or that any such exposures will occur at the levels predicted by EPA. An appropriate risk assessment that (a) utilizes only actual containment concentrations in the air and the water at and near the Site, (b) uses of all such available data, and (c) employs realistic and appropriate exposure assumptions will likely confirm that current conditions at and near the Site do not pose any risk of adverse effects to human health.
4. There is an unexplained discrepancy between the projected costs for wells located south of the Landfill and those located east of the Landfill in the materials that address EPA's proposed amendments to the ROD.

5. The process by which EPA has made its determinations regarding the proposed amendments to the ROD have not been adequately explained. Nor have EPA's determinations of the proposed costs associated with the remedial action EPA now proposes to be undertaken at the Site been adequately explained. Accordingly, having decided that it is appropriate to reconsider remedial action for the Site selected in the ROD, EPA should conduct a complete and thorough feasibility study of the remedial action alternatives suggested by the complete technical data set for this Site that now exists.

The technical bases for these comments are set forth in the Technical Memorandum prepared by ARCADIS G&M, Inc. and dated July 14, 2003, attached hereto.

In light of the significant issues presented by EPA's proposed amendments to the ROD for the Site as identified in the comments above and in those submitted to EPA by Bayer Corporation, the Commenters request a meeting with EPA to discuss those issues prior to EPA making a final decision as to the remedial action to be taken at the Site.

**TECHNICAL MEMO**

COPIES:

ARCADIS G&M, Inc.  
88 DURYEA ROAD  
MELVILLE  
NEW YORK 11747  
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FROM:

Michael F. Wolfert  
Nicholas Valkenburg

DATE:

14 July 2003

ARCADIS PROJECT NO.:

NY001388.0001

SUBJECT:

Himco Dump Superfund Site, Elkhart, Indiana

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ARCADIS has reviewed the December 2002 Supplemental Site Investigations/Site Characterization Report (the Report) for the above site prepared by the USEPA (EPA) and the Revised Plan for the Site of April 2003, also prepared by the EPA. In addition, we briefly reviewed the August 1992 Final Remedial Investigation Report for the Site prepared by SEC Donohue, Inc., to provide background/additional information relative to the site.

**Conclusions**

1. Our evaluation shows that with limited exceptions there is no impact from the landfill on groundwater. What data there are show very limited occurrences of metals, but there is no definable plume, except possibly for bromide, which is not a hazardous substance. Given the lack of groundwater impact, there is no need either for groundwater remediation or for upgrading the current cap.
2. The soil gas data show that chlorinated VOCs are present in soil gas, but there is no evidence that these VOCs have entered or will ever enter the indoor air of houses on the south and eastern sides of the landfill. There is, therefore, no need for a soil gas capture system.
3. The Human Health Risk Assessment (HHRA) overstates the risks associated with potential exposure to constituents in the groundwater and soil.

4. Therefore, the data doesn't support the need for remediation for the following reasons:
- a. There is no need for an upgraded cover for the landfill do to the virtually non-existent groundwater impacts, which are not expected to worsen with time.
  - b. There is no need to connect properties on the east side of the landfill to the public water system because almost no groundwater COCs are above MCLs as a result of the landfill and COCs in the groundwater do not result in unacceptable risk exposure to humans.
  - c. For the reasons given above, there is no need for a contingent groundwater remediation system.
  - d. A soil gas collection system is not necessary because it is not required under federal regulations and the VOCs have not migrated onto adjacent properties with buildings and the situation will not worsen with time. The risk of exposure to VOC's emanating from the landfill is low and within acceptable limits. If action is ultimately deemed necessary, EPA should consider venting basements of buildings and using institutional controls to prevent exposure in future buildings. This approach would be more cost efficient.
5. The USEPA guidance has not been followed in that no Feasibility Study to evaluate potential remedial scenarios has been conducted as part of the process of remedy selection, nor have any of the associated detailed costs been provided.

### **Detailed Comments**

The following comments correspond to the Conclusions in the previous section and provide additional detail.

#### **Groundwater**

With limited exceptions potential impacts on groundwater from the landfill do not exist. For example, the detections of volatile organic compound (VOCs) in the monitoring wells are sporadic and the concentrations are low, generally less than 5 ug/L. Of the 35 samples collected in April-May, 2000 and November 2000 (see Tables 3-6 and 3-7 of the 2002 Supplemental Site Investigation Report), VOCs were detected in only 10 samples or less than one third of the total number of samples. Only one compound (benzene) was found to be above the USEPA and State of Indiana maximum contaminant limit (MCL) at 8 ug/L in one well (WT-116A), which is only slightly above the standard of 5 ug/L. The VOC data show that no VOC plume has formed in the groundwater.

The VOC data from the residential wells for 2000 (see Tables 3-4, 3-5 and 3-6 of the 2002 Supplemental Site Investigation Report) confirm that no VOC plume is affecting the domestic wells east of the landfill.



Of the 28 samples collected, VOCs were found in 17 but the concentrations were low. In all but one residential well the concentrations of VOCs were below the MCLs. In Well RW-22, the concentration of 1,2-dichloropropane ranged between 8 and 10 ug/L, which is twice the MCL of 5 ug/L.

The one consistent detect of 1,2-dichloropropane in Well RW-22 appears to be caused by a local source close to the well rather than the landfill itself (1,2-dichloropropane has many uses and could have been disposed of or used close to RW-22). Since 1,2-dichloropropane was found in only 3 samples from the landfill area (all in Well 116A) and no results were above the MCL, it is unlikely that the landfill was the cause of detects in residential Well RW-22. In addition, Well RW-22 is not downgradient from Well WT-116A, which means that whatever the source is of 1,2-dichloropropane in Well WT-116A, it could not have caused the detects in RW-22. In fact, Well WT-119 is downgradient from Well WT-116A, but no VOCs were detected in this well, which indicates that the low levels of VOCs found at the landfill boundary are not migrating offsite to any significant degree.

Like the VOC data, concentrations of metals in the groundwater do not show a distinct pattern which indicates that a plume of dissolved metals has formed in the groundwater system. Metals occur naturally in groundwater at various concentrations, having been dissolved by groundwater from minerals in the sand and gravel deposits below the site. The human body requires trace concentrations of some metals, which do not pose a human health problem below the MCLs. The data provided show that no metal exceeds its MCL in either the monitoring wells or the residential wells.

The 2002 Supplemental Site Investigation Report appears to show a plume of bromide, but the apparent plume may be related to another source. The metals data show elevated concentrations of sodium in both monitoring and residential wells; but these wells are close to the landfill boundary and on residential property, close to roads. It is likely that the sodium is related to road salting in the winter, which has been shown to cause local groundwater contamination adjacent to highways and roads in the mid west where road salt is used to clear snow and ice. Bromide usually accompanies chloride in salt. Thus the bromide plume appears to have been caused by a source not related to the landfill.

The semi-volatile compound data also confirm that the landfill has had virtually no impact on the groundwater system. All concentrations of the semi-volatile compounds in both monitoring wells and residential wells are well below any MCLs.

Groundwater quality will not deteriorate in the future due to the landfill. The landfill was closed in 1976, which means that ample time has passed to allow any leachable COCs to have reached the groundwater. The virtually nonexistent groundwater impacts to date indicates no definable plume. The length of time that has passed since landfill closure indicates that no significant plume will develop in the future.

## **Soil Gas**

The soil gas data show the presence of VOCs in the soil gas outside the landfill boundary southeast of the landfill. However Figures 5-1 through 5-4 of the Supplemental Site Investigations Report indicate that the VOCs in the soil gas have not migrated onto residential properties. On the south side of the landfill, VOCs in soil gas have been found outside the landfill boundary but in areas where there are no buildings or residences.

The fact that VOCs in the soil gas have not migrated very far from the landfill during the over 40 years that the wastes have been there means it is unlikely that the VOCs will migrate further. The limited extent of the migration has been confirmed by the sampling for hydrogen sulfide and methane in five basements south of the landfill. In those samples neither compound was found, indicating that the landfill has not influenced indoor air in the buildings of surrounding properties. Therefore, occupants of the buildings surrounding the landfill do not face a potential exposure to landfill gas now or in the future. Furthermore, venting of basements as opposed to a gas collection system for the landfill would be more effective and cost efficient if a remedial measure had to be undertaken. Institutional controls, such as a deed restriction, could be used to prevent exposure in future buildings.

In the report, EPA indicates that inhalation of VOCs by people outdoors in the areas where the VOCs in the soil gas were found is a potentially completed pathway. However, like the indoor air, no sampling was done to confirm that VOCs are detectable in outdoor air. In this case, the low permeability soil cover appears only to have prevented VOCs from escaping to outdoor air in the vicinity of the landfill itself, which leaves a small area about 100 feet wide on the southern and eastern boundaries where the potential exposure could occur. Outdoor air is not a risk here, like in most cases, because the contaminants are quickly diluted by wind into a huge volume of air.

## **Human Health Risk Assessment Comments**

ARCADIS reviewed the human health risk assessment (HHRA) completed by the U.S. Environmental Protection Agency (EPA) for the Himco Dump Superfund Site (the Site). In general, we found that errors in a few key exposure parameter values caused predicted risks to be unacceptable; use of corrected values would have yielded risk estimates below levels of concern. Specific comments are discussed in greater detail below.

## **Data**

The HHRA is based on a very limited data set that overestimates potential risks from exposure to groundwater south and east of the site and surface and subsurface soils south of the site. In particular, there are problems with the quantity and quality of groundwater data used to calculate risks as well as the screening method used to identify chemicals of potential concern (COPCs) in surface and subsurface soils.

#### GROUNDWATER

Predicted risks to residents south of the site are overestimated due to the use of a limited and poor quality data set and the use of maximum chemical concentrations. To estimate risks from exposure to groundwater south of the site, the HHRA uses only data from Wells 116A and 119A. Although Well 116A is within the construction debris area (CDA) and Well 119A is down gradient of the CDA, these wells were specifically chosen for analysis because samples from these wells contain the highest concentrations of chemicals. Given the locations of these two wells, they do not reflect actual concentrations to which residents might be exposed. Although data from residential wells are available, these data are not used in the HHRA.

Only six samples are used to calculate risks to residents south of the site. The quality of these samples and the groundwater data in general is questionable due to the presence of high detection limits. Table 9-1 in the report presents over 30 chemicals that were not detected in groundwater, but have detection limits greater than risk based screening levels. These results indicate that additional data (such as the residential well data) should be used to fully and accurately characterize the groundwater for risk assessment purposes.

Of the chemicals evaluated in the HHRA, several have only been detected once. For example, antimony and thallium are associated with a hazard quotient (HQ) greater than one; however, both these chemicals are detected in only one out of six samples. Moreover, the single detected concentration for antimony and thallium is from a duplicate sample collected in 1995. However, Appendix H shows that the parent sample was non-detect. These results, therefore, are extremely questionable and should not be used in the HHRA. Similarly for wells east of the site, thallium is associated with an HQ greater than one, although it is only detected in one out of ten samples and the single detected result is found only in the duplicate, not the parent sample. Given these findings, a more robust data set should be compiled to determine if these chemicals are truly site related and if so, a more appropriate exposure point concentration (EPC) should be developed.

Of the six data points collected from Wells 116A and 119A south of the site, the maximum detected concentration is used to calculate risks. This approach is extremely conservative, as it assumes that a single individual will be simultaneously exposed to the maximum concentrations of all COPCs. Moreover, because the minimum and mean concentrations are not presented in any tables, it is difficult to determine if the maximum concentrations are representative of potential exposures.

#### SURFACE AND SUBSURFACE SOILS

The evaluation of surface and subsurface soils (identified as mixed soil data in the HHRA) also overestimates potential human health risks to residents living east of the site due to the method used to select COPCs. To evaluate risks, the HHRA appropriately uses parcel-specific data, as these data are

most representative of conditions at each individual property. However, before calculating risks, the HHRA first selects COPCs using all data collected from all parcels. As a result, risks are calculated for chemicals that are not detected at individual parcels. For example, using all the surface and subsurface data, antimony, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, and dibenzo(ah)anthracene are identified as COPCs. However, these chemicals are only detected at only three of the six parcels evaluated. Based on nondetect concentrations, risks of  $2 \times 10^{-5}$  are calculated for benzo(a)pyrene at Parcel S. To more accurately estimate risks from surface and subsurface soil, only those chemicals actually detected at individual parcels should be included in the risk calculations. Further, all of these PAHs are common background contaminants in urban industrialized settings such as this one, calling into question whether the limited observed detections are actually due to the landfill.

#### SOIL GAS

In 1998, soil gas samples were collected south of the landfill. Although soil gas is not used to evaluate the vapor intrusion pathway, the data can be used qualitatively. No homes are located within the area sampled for soil gas (i.e., the homes are located south of the area sampled). Moreover, as soil-gas concentrations decrease significantly with increasing distance from the site (further south), these results suggest that there is no risk to current residential homes from vapor intrusion. A review of the residential well data confirms these results, as no VOCs were detected in the majority of residential wells. 1,1-Dichloroethane was detected in a few residential wells. However, all detected concentrations are well below levels that would be associated with an indoor air risk.

#### Exposure Assumptions

The exposure assumptions used to calculate risks are overly conservative and based on outdated guidance. As a result, risks calculated for all receptors and pathways are overestimated. Specific concerns with dermal exposure factors, soil ingestion rate, exposure frequency, and exposure parameters used to calculate risks from inhalation of VOCs from groundwater are detailed below.

#### DERMAL EXPOSURE FACTORS

To evaluate dermal contact with soil, the HHRA relies on an outdated version of EPA's *RAGS* dermal guidance (EPA, 1992). In 2001, EPA published *RAGS Part E: Supplemental Guidance for Dermal Risk Assessment* that contains more robust data on dermal adherence and other dermal exposure parameters. This guidance document should be used for all dermal exposure estimates, including adherence factor and surface area. The HHRA uses an adherence factor of  $1 \text{ mg/cm}^2$  for all pathways. EPA (2001) recommends using an adherence factor of  $0.07 \text{ mg/cm}^2$  for gardeners and  $0.2 \text{ mg/cm}^2$  for child residents based on the results of Kissel et al. (1996, 1998). This single change has a significant effect on the risk results. At Parcel F, for example, a noncancer dermal HQ of 1.6 is calculated for mercury based on the

outdated adherence factor, while using the correct adherence factor of 0.07 mg/cm<sup>2</sup> reduces the HQ to 0.11.

For dermal exposure to groundwater during showering, the HHRA uses surface areas of 20,000 cm<sup>2</sup> and 7,300 cm<sup>2</sup> for adults and children, respectively, and exposure durations of 0.2 hr/event and 0.75 hr/event for adults and children, respectively. In contrast, EPA (2001) recommends using surface areas of 18,000 cm<sup>2</sup> for adults and 6,600 cm<sup>2</sup> for children. In addition, EPA (2001) recommends exposure durations during showering of 0.25 hr/day for adults and 0.33 hr/day for children. Use of values recommended in the 2001 guidance would reduce predicted risks approximately two-fold.

#### SOIL INGESTION RATE

The HHRA uses soil ingestion rates of 100 mg/day for the resident and 480 mg/day for the construction worker and gardener. These values are based on outdated guidance and significantly overestimate potential exposures. Updated information on soil ingestion rates may be found in EPA's (1997) *Exposure Factors Handbook*. EPA (1997) recommends using a soil ingestion rate of 50 mg/day for the residential adult. Although no information is provided for the residential gardener, EPA (1991) recommends using a value of 100 mg/day for the agricultural scenario. Clearly an agricultural scenario is more representative of adult gardener exposures than a construction scenario. Indeed, EPA (1997) recommends against the use of 480 mg/day to evaluate soil ingestion by construction workers. Recent analyses by state agencies (Massachusetts Department of Environmental Protection, for example) recommend using a soil ingestion rate of 100 mg/day for construction workers (<http://www.state.ma.us/dep/ors/files/soiling.doc>).

#### EXPOSURE FREQUENCY

The HHRA double counts potential risks to residential gardeners by summing risks across scenarios without adjusting exposure frequencies. The HHRA currently assumes that resident/gardeners contact soil a total of 390 days/yr (i.e., 350 + 40). If these two scenarios are to be summed then the total exposure frequency cannot exceed the total number of days per year that residents are home (i.e., 350 days/yr). In other words, the exposure frequency for the resident should be reduced to 310 days to account for the 40 days of soil exposure that occurs during gardening activities.

#### INHALATION OF VOCs FROM GROUNDWATER

The HHRA separately evaluates risks from groundwater exposure during showering and risks from groundwater exposure during household use. However, the total water use rate in the house ( $F_{w-h}$ ) for showering and household use exceeds all values provided in EPA guidance. The HHRA estimates that showering alone uses 600 L/day and other household uses (minus showering) use 723 L/day; a total water use rate of 1,323 L/day. EPA (1991) estimated that total water use in a residence (e.g., showering, laundering, dish washing) was only equal to 720 L/day. Moreover, EPA (1997) estimates that the mean

total water use rate (e.g., shower, toilet, laundry, dishwashing) is equal to 59 gallons per capita per day or 224 L/day. Clearly, the HHRA significantly overestimates water use for both showering and household uses.

Another critical parameter in estimating inhalation of VOCs from groundwater is the estimated volume of the house (HV). The HHRA uses a value of 177.7 m<sup>3</sup>. However, EPA (1997) recommends a residential volume of 369 m<sup>3</sup>. Unless EPA has site-specific data on the residences near the site, HV should be increased to 369 m<sup>3</sup>, which would decrease the calculated inhalation risk.

An evaluation of the risk results for groundwater exposure to VOCs supports the changes described above. Table 9-10 indicates that risks from household use of groundwater are greater than risks from showering. Such results are not plausible because the small space, high temperatures, and increased water rate associated with showering all suggest that the risks from showering should be significantly higher than for other household uses (Coburn 1996). Implementing the above changes for household water use<sup>1</sup> and volume of the house reduces noncancer hazards for benzene from 11 to 1.

## **Comments on the Revised Proposed Plan for the Site**

### **Modified Soil Cover**

EPA in its Revised Cleanup Plan states "Since the landfill waste mass is in contact with the water table, the effectiveness of the 1993 cap is minimized and therefore not cost effective." Furthermore, it (EPA) also states that "the 1993 cap will not remove the potential threat to the receptor."

However, EPA goes on to propose a modified soil cover for the landfill consisting of compacted low permeability material and an overlying topsoil layer seeded with the current on-site plant species to preserve the Site's prairie plant community.

The proposed soil cover is not necessary for several reasons. Currently, the Site has a 2-foot layer of calcium sulfate overlain by 1 foot of sand, which has an established prairie plant community. Because the site is already covered by a layer of low permeability material (calcium sulfate) and has a plant community (which EPA seeks to establish on its proposed cover) established on the overlying sand layer there is no benefit to the proposed EPA cover. The vegetative cover, which EPA seeks to establish, already exists; and it is possible the planned vegetative cover may not be compatible with the planned topsoil layer.

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<sup>1</sup> Household water use was estimated to be 159 L/day (224 L/day total minus 65 L/day for showering) based on EPA (1997) Table 17-14.

There is no evidence that the low levels of constituents found in residential wells have originated from the landfill, especially since an evaluation of background data and local sources of contamination was not properly conducted and no comparison to standards is given in the report. Even though some constituents may appear to be elevated, none of the constituents have been found above MCLs in the monitoring wells in 2000 except for a one-time exceedance of the benzene MCL in one well, further indicating that the groundwater impact from the landfill has been virtually non-existent. Moreover, if the landfill were the cause of elevated constituents in residential wells, it would be expected that the highest constituent levels would be closest to the landfill and decrease away from the landfill. However, monitoring wells located between the landfill and residential wells have lower constituent levels than the residential wells, suggesting that the residential wells elevated constituent levels are not landfill derived. Since no resident is at risk from the very low concentrations of constituents in the groundwater, and EPA has over estimated the risk from the constituents that are present, the upgraded cover is not necessary, based on a proper risk assessment.

#### **Active Landfill Gas Collection System**

The proposed gas system is not necessary. Soil gas sampling immediately south and east of the landfill and the resultant mapping/contouring of the data shows that elevated concentrations of volatile organic compounds in soil gas decreases rapidly away from the landfill to below detection levels near the area of private residences to the south/southeast of the landfill. Although no air samples were collected in basements in this area to confirm the soil gas results, sampling of basement air for methane and hydrogen sulfide (common to landfills) did not reveal detectable levels, thus indicating that landfill constituents have not migrated into indoor air. Therefore, like the risk purported to be associated with groundwater, the potential exposure of building residents to landfill contaminants in indoor or ambient air is well below that stated in the report.

#### **Contingent Groundwater Treatment System**

There is no need for a contingent groundwater system for the following reasons:

- Historically, with limited exceptions, there have been no impacts to groundwater.
- In 2000 MCLs were not exceeded in any monitoring well except for a one-time exceedance of the benzene MCL in one well.
- The landfill has existed since 1960 and has been closed since 1976. Therefore, there has been ample additional time for constituents to migrate from the landfill to groundwater, and there is no reason to expect groundwater quality to worsen with time.

## **Cost Issues**

The proposed plan calls for abandoning private wells south of the landfill at a total cost of \$4,600 or \$460 per well while the abandonment of 35 private wells east of the landfill is estimated to cost a total of \$331,200 or \$9,463 per well. This is a large discrepancy.

The 30-year Landfill Cap O&M cost is high, and details of all costs in the proposed plan should be presented. SEPA has not followed its own guidance by failing to provide a formal Feasibility Study, which would have evaluated the remedial alternatives, including the no action scenario, provided detailed cost estimates and proposed a final remedy. It has also denied the public the opportunity to evaluate the remedial scenarios and to comment on them.

## **Summary**

1. The limited, low level, sporadic groundwater impacts indicate that no groundwater plume exists.
2. Worsening of groundwater quality in the future is very unlikely.
3. There is no need for the proposed soil cover.
4. There is no need for the residents along the eastern side of the landfill to be connected to the public water system.
5. There is no need for a contingent groundwater remedy.
6. Based on the data collected and presented to date, the soil gas system is unwarranted in regards to the potential impact of soil gas on private residences.
7. The HHRA overstates cancer risks and noncancer hazards for all exposure scenarios and all pathways.
8. It is highly unlikely that any residents are or will be exposed to the concentrations predicted by EPA, or that exposures will occur at the levels predicted by EPA.
9. All of the data collected at the site should be used.
10. Use of more appropriate exposure assumptions will likely confirm that current conditions off site do not pose any adverse effects to human health.
11. The apparent discrepancy between well abandonment costs for wells south and east of the landfill should be explained.



12. The details of all costs in the proposed Plan should be presented, as should remedial alternatives in a Feasibility Study, which is normally prepared in a project of this nature.

## References

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- EPA. 1997. Exposure Factors Handbook. Volumes I, II, and III. USEPA/600/P-95/002Fa,b,c. U.S. Environmental Protection Agency, Office of Health and Environmental Assessment, Washington, DC. August.
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